Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A Method for detecting the angular position of a brushless electric motor, of the type in which the emission of a polarity signal of the back electromotive force by a detection circuitry associated with the motor is provided, comprising:

detecting a polarity signal of a back electromotive force from a winding of the motor using a detection circuit; and

using a bi-directional counter to count a difference in residence time of logic states '0' and '1' at an output of said detection circuitry.

2. (Original) Method according to claim 1 wherein said counter is a digital up/down counter and is enabled around an expected zero-crossing of said back electromotive force with a counting window having an arbitrary duration.

3. (Original) Method according to claim 2 wherein said counting window has an arbitrary duration, symmetrical with respect to the expected zero-crossing.

4. (Original) Method according to claim 2 wherein the duration of the counting window varies arbitrarily during driving of the motor.

5. (Original) Method according to claim 2 wherein a zeroing of the counter takes place at a start of each counting window, or at an arbitrary moment before such a time period.

6. (Original) Method according to claim 2 wherein the counter is periodically disabled from counting inside the counting window.

7. (Original) Method according to claim 1 wherein an increase in the counter takes place together with a reception at an input of the counter of a logic state '0', whereas a decrease takes place together with a reception at the input of a logic state '1' in said counting window.

8. (Original) Method according to claim 7 wherein a counting frequency of the counter can vary during various driving phases of the motor.

9. (Original) Method according to claim 1 wherein a value assumed by the counter at an end of each counting window is used in formulas to estimate an instantaneous position of the rotor, a period between two zero-crossings, and a speed of rotation.

10. (Original) Method according to claim 9 wherein an algorithm computing the period between two zero-crossings operates according to the following relationship:

$$Period(n) = Period(n-1) + K1*Delta(n-1) \qquad (EQ\ 4)$$

where:

"Period(n-1)" resulted from a calculation carried out at an end of a previous window,

Delta is the calculation carried out at the end of the last window and is a filtered value of position information of a real zero-crossings with respect to the expected one at the base; and,

"Period(n)" is the period which separates from a previous zero-crossings calculated at the end of the last counting window; and

K1 and K2 are generic parameters whose value can be established according to filtering requirements.

11. (Original) Method according to claim 10 wherein values of the generic parameters are modified arbitrarily during various driving phases of the motor.

12. (Original) Method according to claim 10 wherein the algorithm is arbitrarily alternated with any known method for detecting the position of the rotor.

13. (Currently Amended) A method for detecting a rotor position in a brushless electric motor, comprising:

detecting a back electromotive force in a winding of the motor;

determining a polarity of the back electromotive force; ~~and~~

incrementing a counter up or down according to the polarity of the back electromotive force; and

repeating the determining and incrementing steps at a selected frequency during a selected time period.

14. (Cancelled)

15. (Currently Amended) The method of claim ~~14~~13, further comprising estimating a point of zero crossing of the back electromotive force.

16. (Original) The method of claim 15, further comprising selecting the selected time period such that the estimated point of zero crossing falls at a midpoint of the selected time period.

17. (Currently Amended) The method of claim ~~14~~13, further comprising establishing a true point of zero crossing based upon a count of the counter at the end of the selected time period.

18. (Original) The method of claim 17 wherein:

the selected time period is one of a plurality of selected time periods; and

the method further comprises performing the detecting, determining, incrementing, and repeating steps during each of the plurality of selected time periods.

19. (Original) The method of claim 18, further comprising zeroing the counter prior to a beginning of each of the plurality of the selected time periods.

20. (Original) The method of claim 18, further comprising establishing a speed of rotation of the motor based upon a measured time period between two consecutive established true points of zero crossing.

21. (Original) A method, comprising:

estimating a point of zero crossing of a back electromotive force of a winding of a motor;

establishing a time period beginning a first selected period prior to the estimated zero crossing, and ending a second selected period after the estimated zero crossing, the first and second selected periods being equal;

incrementing a counter repeatedly at a selected frequency during the time period;

determining, at each increment of the counter, a polarity of the back electromotive force;

incrementing the counter in a first direction if the polarity of the back electromotive force is positive;

incrementing the counter in a second direction if the polarity of the back electromotive force is negative; and

establishing a true point of zero crossing based upon a value of the counter at the end of the time period.

22. (Original) A system, comprising:

a comparator module configured to detect a back electromotive force in a motor winding and supply a digital signal at an output based upon a polarity of the detected back electromotive force;

a counter module configured to increment up or down at a selected frequency according to a digital value at the output of the comparator module; and

an enable module configured to enable the counter module during a selected time period.

23. (Original) The system of claim 22, further comprising a position detector module configured to determine a true position of a rotor of the motor based upon a count of the counter module at an end of the selected time period.

24. (Original) The system of claim 23 wherein the position detector module is further configured to estimate a point of zero crossing of the back electromotive force, and wherein the enable module is configured to select the time period such that the estimated zero crossing occurs at a midpoint of the time period.